CLAIMS

What is claimed is:

1. A method for detecting the presence or absence of a prokaryotic microorganism in a sample, the method comprising the steps of:
   a. identifying a protease that is unique to the prokaryotic microorganism;
   b. providing a quenched labeled substrate specific for said protease; and
   c. providing the sample; and
   d. determining the presence or absence of a detectable label.

2. The method of claim 1 wherein the quenched label is selected from the group consisting of fluorescent labeled peptide and colorimetric labeled peptide.

3. The method of claim 2 wherein the means for determining is a colorimeter or fluorimeter.

4. A method for detecting a plurality of pathogenic microorganisms in a sample, the method comprising the steps of:
   a. identifying a protease that is unique to the prokaryotic microorganism;
   b. providing a quenched labeled broad spectrum substrate for said protease;
   c. providing the sample; and
   d. determining the presence or absence of a detectable label.

5. A method of using broad spectrum fluorescent or colorimetric labeled peptides to recognize a bacterial species by detecting the conjugated peptide with a colorimeter or fluorimeter.

6. A device for capturing and releasing bacteria from solid or liquid extracts comprising protein encapsulated starch or Styrofoam.

7. A device for capturing and releasing bacteria from a sample, said device comprising a pellet and a layer of antibodies entrapped in gelatin surrounding said pellet.

8. A sensor for detection of bacteria in a sample, said device comprising packaging material having a first side proximal to said sample and having a second side; and a dye labeled substrate for the bacteria wherein said dye labeled substrate is attached to said first side .

9. A method for using an alpha-crystallin type protein comprising the steps of:

(a) expressing and purifying the recombinant alpha-crystallin type protein; and

(b) adding the alpha-crystallin type protein to a solid phase or a liquid phase assay containing a dye labeled peptide in an amount sufficient to reduce proteolysis of said dye labeled peptide.